

REMARKS

The Office Action dated October 31, 2006, has been received and carefully noted. The Examiner is thanked for indicating that claims 1-22 would be allowable if amended to overcome the objection and rejection under 35 U.S.C. §112, 2nd paragraph, set forth in the Office Action.

The above amendments to the specification, claims, and the following remarks, are submitted as a full and complete response thereto.

On page 2 of the Office Action, the specification stands objected to as the abstract contains legal phraseology, such as “means” used in claims. In response, Applicants submits herewith an attached substitute Abstract.

On page 2 of the Office Action, claims 1-22 stand objected to as containing informalities. In response, Applicants have amended the claims, as shown above, as suggested by the Examiner. Applicants respectfully assert, however, that not all objections appear proper. For example, on page 3 of the Office Action, the Examiner asserted that “the values” on line 1 of claim 2 should be “the selected values”. This seems to contradict the Office Action’s previous assertion on the same page that “the output signal values” in claim 2, line 1, should be “the modulator output signal values. Applicants deem that “the output signal values” should read as “the modulator output signal values”. Accordingly, Applicants have amended claim 2 in the manner that Applicants believe is most correct, as shown above.

In another example showing an improper objection, on page 3, Office Action asserted that, on line 2 of claim 10, “is” should be “is a”. However, it appears the indefinite article “a” is not grammatically necessary in this particular usage.

In another example of an improper objection, on page 3, the Office Action asserted that, on lines 1-2 of claim 13, “he output signal values to be formed” should be “the modulator output signal values being formed”. Applicants note that the Office Action was correct with respect to the misspelling of the definite article “the”. However, as the claim is not a method claim, the language “the output signal values to be formed are base-band values” is proper.

In addition to amending the claims as suggested by the Examiner to overcome the objection, Applicants have further amended the claims to correct other informalities not cited by the Examiner and to further clarify the claim language. No new matter has been added by the amendments to the claims.

On page 3, claim 23 stands rejected under 35 U.S.C §112, 1st paragraph, as failing to comply with the enablement requirement. The Office Action alleged that, in claim 23, the transmitter is considered as a single means claim which performs different functions. The Office Action cited *in re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) as support for this rejection. However, Applicants respectfully assert that claim 23 is not a single means claim. Claim 23 recites a transmitter configured with a multitude of functional blocks that perform at least four functions. There is no “means” language used in the claim.

Moreover, with respect to *in re* Hyatt cited by the Office Action, the claim at issue is claim 35, which recites the following:

35. A Fourier transform processor for generating Fourier transformed incremental output signals in response to incremental input signals, said Fourier transform processor *comprising* incremental *means for* incrementally generating the Fourier transformed incremental output signals in response to the incremental input signals.

Applicants respectfully submit that clearly claim 35 of Hyatt is a single means claim that has no resemblance to claim 23 of the present invention, that claim 35 is not a single means claim, and that the recitation of *in re* Hyatt is improper. Accordingly, the 35 U.S.C. §112, 1st paragraph, is respectfully requested to be reconsidered and withdrawn.

On page 4 of the Office Action, claims 1-22 stand rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite for particularly failing to point out and claim the subject matter which Applicants regard as the invention. Particularly, the Office Action contended that the term “a multi-level modulation recited in claims 1, 5, 10, 12, 16, 21 and 23 is indefinite since it does not define what method is the multi-level modulation method. In response to this assertion, Applicants respectfully submit that the rejection has no grounds because, based on MPEP 2111.01, the words of a claim must be given their “plain meaning” unless such meaning is inconsistent with the specification. Moreover, according to MPEP 2111.01, Applicant may be his or her own lexicographer.

Further, Applicants respectfully point out to the Examiner the term “multi-level modulation method” is known in the field of the invention and is defined as “a modulation method whose signal space diagram has several points depicting a state of a level”, for example, on page 1, paragraphs [0002] and [0005], of the specification. Hence, for the reasons set forth above, the Office Action’s reason for the rejection has no merit.

With respect to claims 8 (lines 4, 5 and 6), claim 9 (lines 2-3), claim 19 (lines 4, 5 and 6) and claim 20 (lines 2-3) the Office Action contended that the phrase “the output signal value”, “the modulator” and “the properties of the system filter” lack antecedent basis. In response, Applicants have amended claims 8, 9, 19, and 20, as shown above, to overcome the rejection.

With respect to claims 8 and 19, the Examiner further contended that the phrase “what are the signs of the values representing the signal or a pulse format in the output signal value summing expression of the modulator” is not understood. In this regard, Applicants have amended the claims, as shown above, to delete “what are”.

In view of the above, Applicants respectfully submit that each of the claims 1-23 has been amended to correct all informalities and improve the clarity of the claim language. It is therefore respectfully requested that these pending objection and rejections under 35 U.S.C. §112, 1st and 2nd paragraph, be withdrawn, and this application pass to issue with the allowance of pending claims 1-23.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time